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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/702,085

11/06/2003

Jurgen Schulz-Harder

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7590 10/18/2007
HOFFMAN, WASSON & GITLER, P.C.
Suite 522
2361 Jefferson Davis Highway
Arlington, VA 22202

EXAMINER

LEO, LEONARD R

ART UNIT

PAPER NUMBER

3744

MAIL DATE

DELIVERY MODE

10/18/2007

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/702,085

Applicant(s)

SCHULZ-HARDER, JURGEN

Examiner

Leonard R. Leo

Art Unit

3744

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 19 July 2007.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 5,9-23 and 35-38 is/are pending in the application.
- 4a) Of the above claim(s) 12-15 and 17-21 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 5,9-11,16,22,23 and 35-38 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____

DETAILED ACTION

The amendment filed on July 19, 2007 has been entered. Claims 1-4, 6-8 and 24-34 are cancelled, claims 5, 9-23 and 35-38 are pending, and claims 12-15 and 17-23 remain withdrawn from further consideration.

Claim Objections

Claim 35 is objected to because of the following informalities: the recitation of "und" in line 4 should read -- and --. Appropriate correction is required.

Claims 5 and 36 are objected to under 37 CFR 1.75(c), as being of improper dependent form for failing to further limit the subject matter of a previous claim. Applicant is required to cancel the claim(s), or amend the claim(s) to place the claim(s) in proper dependent form, or rewrite the claim(s) in independent form.

Regarding claim 5, the recitation of "metal stays" does not further limit the DCB bonding in claim 1, which by definition forms copper stays.

Regarding claim 36, the recitation of "sintering" does not further limit the DCB bonding in claim 1, which by definition employ an intermediate material to bond the ceramic particles.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 5, 9-11, 22-23 and 35-38 are rejected under 35 U.S.C. 103(a) as being unpatentable over Lindemuth et al.

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Lindemuth et al discloses a copper heat pipe comprising a top wall 17 and a bottom wall 15 forming a cavity containing posts 24 and porous structure 9 composed of copper-silicon-carbide (column 5, lines 1-3), i.e. ceramic bonded with copper, but does not disclose posts separate from the opposing walls.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to employ posts separate from the opposing walls, since it has been held that constructing a formerly integral structure in various elements involves only routine skill in the art. *Nerwin v. Erlichman*, 168 USPQ 177, 179.

The recitation of “by means of DCB bonding” is considered to be a method limitation in an apparatus claim, which bears no patentable weight in this instance. See MPEP 2113.

Regarding claims 9-11, Figure 12 of Lindemuth et al discloses the porous structure 9 being a layer fully enclosing small diameter posts 24 on wall section 15.

Regarding claim 16, Lindemuth et al (column 4, lines 34-37) discloses the porous structure 9 is “at least formed on the bottom wall 15 and posts 24,” which implies the top wall 17 may be formed with the porous structure 9.

Response to Arguments

The rejection of claims 5 and 22 under 35 U.S.C. 112, second paragraph, are withdrawn in view of the claim amendment.

The anticipatory rejections in view of Dussinger et al, Eastman and Lindemuth are withdrawn in view of the claim cancellations.

Applicant's arguments have been considered but are moot in view of the new ground(s) of rejection.

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As evidenced by Koning et al, ceramic coated with copper can be bonded by a reflow operation. Thus, DCB is not the only method to bond "copper with ceramic without any further bonding material in between." Therefore, the Examiner's position with respect to product-by-process limitations is maintained.

No further comments are deemed necessary at this time.

Conclusion

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Leonard R. Leo whose telephone number is (571) 272-4916. The examiner can normally be reached on Monday thru Friday.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Cheryl Tyler can be reached on (571) 272-4834834. The fax phone number for the organization where this application or proceeding is assigned is (571) 273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

/ LEONARD R. LEO /
PRIMARY EXAMINER
ART UNIT 3744

October 15, 2007

Fig.3

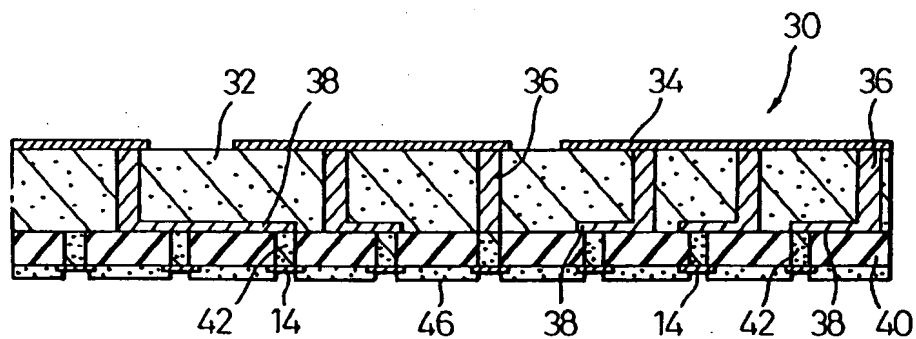


Fig.4

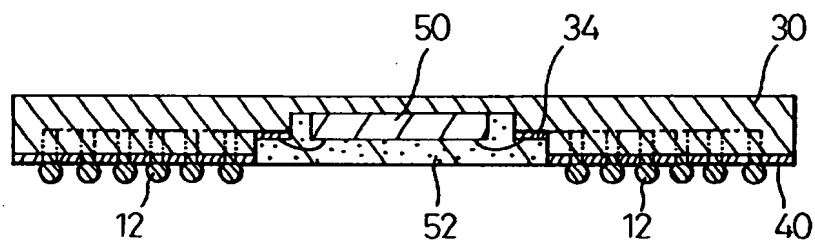


Fig.5

